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REVIEW – LINEAR FUNCTIONS

Find the slope in each situation:

1. Line passes through (4,7) and (6,13).

2. Line passes through (5,–3) and (–4,3).

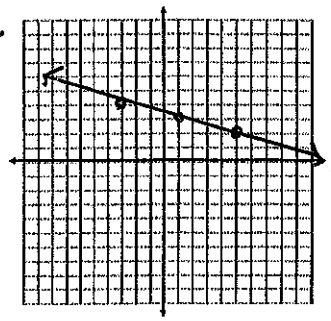
3.

X	Y
-1	4
0	6
1	8

4.

Number of donuts	6	12	18
Cost	3.00	6.00	9.00

5.



6. You buy deli turkey at a price of $6.49 per pound.

Sketch a line that satisfy the following conditions:

7. Positive slope

8. Negative slope

9. Slope=0

10. slope undefined

Find the slope in each situation:

11. Line $y = 3$.

12. Line $x = -5$.

Graph the line:

13. $x = 4$

14. $y = -3$

Write the equation of the line that satisfies the given conditions:

15. Line with a slope of zero through the point (5,6).

16. Line with an undefined slope through the point (2,7).

Graph the line:

17. $y = 4x - 3$

18. $4x + 2y = 6$

19. $3x - 5y = 10$

20. $y = -\frac{2}{5}x + 1$

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Graph the line:

21. $y-2=\frac{1}{2}(x+3)$ 22. $y+1=-\frac{3}{4}(x-2)$

Write the equation of the line that satisfies the given conditions:

23. slope $=5$ and y-intercept is 7

24. In *slope-intercept form:* slope $=3$, passes through $(0,-\frac{1}{2})$

25. Write and label the 3 different equation forms we've learned (point-slope, standard, and slope-intercept).

Write the equation of the line that satisfies the given conditions:

26. In *point-slope form*: slope $=-2$, passes through $(-4,6)$

27. In *slope-intercept form*: slope $=-2$, passes through $(-4,6)$

28. In *standard form*: slope $=-2$, passes through $(-4,6)$

29. Passes through the points $(1,9)$ and $(0,6)$.

Transformations: (tell me specifics like it shifts up 2 units, etc).

30. Describe at least 2 ways in which $y=-4x+2$ is a transformation of the parent function $y=x$.

31. Describe 2 ways in which $y=\frac{1}{3}x-4$ is a transformation of the parent function $y=x$.

32. Describe at least 2 ways in which $y=-\frac{1}{6}x-5$ is a transformation of the parent function $y=x$.

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33. A moving company charges a flat rate of $100 and then $12 per box moved.

A. State the independent variable in this problem.

B. State the dependent variable in this problem.

C. State the slope.

D. Interpret the meaning of the slope in this situation.

E. State the y-intercept.

F. Interpret the meaning of the y-intercept in this situation.

G. Write an equation that models this situation.

H. How much money will you spend if you have them move 10 boxes? (Show your work!)

34. Use the given representation to create the other 2 representations:

Equation : $y = 6x - 4$

Graph: draw the matching graph on your paper

Table: make a table with at least 4 points on your paper

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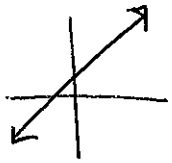
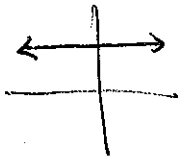
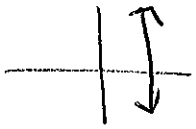
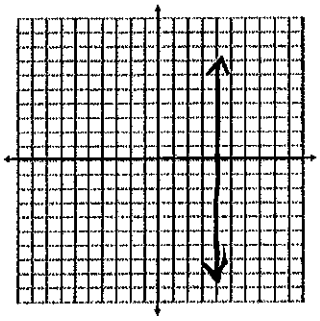
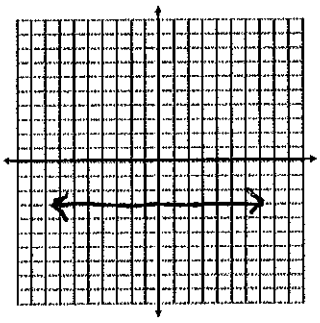
ANSWERS

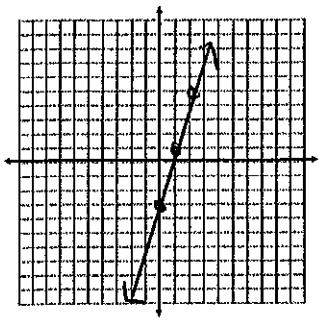
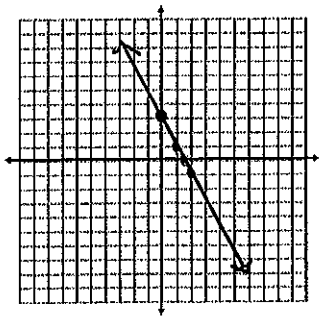
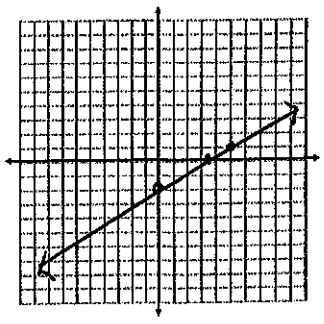
1. 3
2. $-\frac{2}{3}$
3. 2
4. $\frac{3}{6}=\frac{1}{2}$
5. $-\frac{1}{4}$
6. 6.49

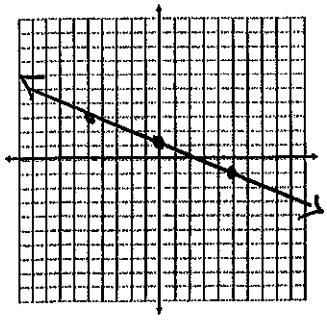
7. 
8. 
9. 
10. 

11. 0 (zero)
12. undefined

13. 
14. 

15. y=6
16. x=2

17. 
18. 
19. 

20. 

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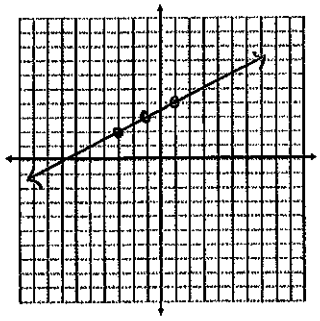
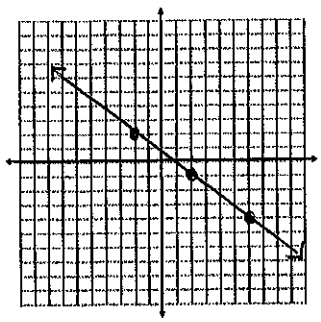


22.



23. $y = 5x + 7$

24. $y = 3x - \frac{1}{2}$

25. Point-slope: $y - y_1 = m(x - x_1)$, slope-intercept: $y = mx + b$, standard: $Ax + By = C$

26. $y - 6 = -2(x + 4)$

27. $y = -2x - 2$

28. $2x + y = -2$

29. $y = 3x + 6$

30. $y = -4x + 2$ has negative slope (reflection across y-axis), is steeper, and is shifted up 2 units

31. $y = \frac{1}{3}x - 4$ is flatter and is shifted down 4 units

32. $y = -\frac{1}{6}x - 5$ has negative slope (reflection across y-axis), is flatter, and is shifted down 5 units

33. A. # boxes moved
B. cost ($)
C. 12
D. cost per box
E. 100
F. flat rate (moving cost with zero boxes)
G. $y = 12x + 100$
H. $220

34.

x	y
-1	-10
0	-4
1	2
2	8